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10/731,572

12/08/2003

David G. Bird

2240P111C

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05/02/2007

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EXAMINER

KIANERSI, MITRA

ART UNIT

PAPER NUMBER

2145

MAIL DATE

DELIVERY MODE

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

|                              |                                      |                                       |  |
|------------------------------|--------------------------------------|---------------------------------------|--|
| <b>Office Action Summary</b> | <b>Application No.</b><br>10/731,572 | <b>Applicant(s)</b><br>BIRD, DAVID G. |  |
|                              | <b>Examiner</b><br>Mitra Kianersi    | <b>Art Unit</b><br>2145               |  |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 03 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 20 February 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-67 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-67 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                       | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>12/8/03</u>   | 6) <input type="checkbox"/> Other: _____                          |

### ***Response to Arguments***

Applicant's arguments filed 02/20/2007 have been fully considered but they are not persuasive.

Applicant on page 9 argues that Botzenhardt does not disclose the use of Internet Protocol (IP) much less the use of IP in relation to a CAN bus, or the idea of enabling IP hosts to communicate on a CAN bus. In Botzenhardt's invention the identifier identifies contents such as addresses, data, sensor signals, correcting quantities, intermediate results, synchronization instructions, instruction to perform a function, rotational speed, rotational speed gradients, engine temperature, engine load, instructional data etc. Botzenhardt in col 9, lines 15-35 and in Fig.7 discloses transmission protocol which describes the interface between the individual computers and the line linking the computers with the aid of a controller, where the line connects the computer for the transmission of messages. In this system, a message is comprised of the bit fields START-OF-FRAME, IDENTIFIER, CONTROL-FIELD, DATA-FIELD, CRC-FIELD, ACK-FIELD, END-OF-FRAME and INTERMISSION. In this description, the terms HIGH and LOW are used in the sense of logic levels. While HIGH has a recessive effect on the bus, LOW is dominant. As a result, all bus users receive a LOW level if at least one of several bus users sends a LOW. A bus user may begin the transmission of a message only if the bus is free, that is, in the BUS-IDLE status. All receivers are synchronized on the leading edge caused by START-OF-FRAME.

Because the arguments with respect to the allowableness of independent claims were found unpersuasive, these same arguments are not persuasive with respect to the other dependent claims.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

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(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claim 34-62 are rejected under 35 U.S.C. 102(e) as being anticipated by

Botzenhardt et al (US Patent No.5, 901,156)

1. As per claims 34, 61-62, a method, comprising:  
communicating information between Internet protocol (IP) hosts a controller area network (CAN) bus and vehicle modules within the vehicle by encapsulating an IP message in a CAN protocol message to create a CAN/IP message. (col 4, lines 48-67)
2. As per claims 35 and 49, including using the IP destination address to determine a next-hop IP address. (col 2, lines 13-24)
3. As per claim 36 and 50, including determining a CAN bus address is used based upon the next- hop IP address. (col 2, lines 13-24)
4. As per claim 37 and 51, wherein if the next hop IP address is a broadcast or multi-cast address, using a CAN global address as the CAN bus address. (col 2, lines 25-35)
5. As per claim 38 and 52, including if the next hop IP address is a unicast address, using an address resolution protocol request to determine the CAN bus address. (col 2, lines 25-35)
6. As per claim 39, 43, 48, 56 and wherein using an address resolution protocol request further comprises: transmitting a CAN bus address request message on the CAN bus; and receiving a reply message from one of the IP hosts, including the CAN bus address. (col 4, lines 56-67 and col 5, lines 1-22)

7. As per claim 40, further comprising: transmitting the CAN/IP message to the CAN bus address; and receiving the CAN/IP message at a first one of the IP hosts, which corresponds to the CAN bus address. (col 4, lines 56-67 and col 5, lines 1-22)
8. As per claims 41, 53-54 and 57, further comprising after receiving the CAN/IP message, authenticating the CAN/IP message as being from a second one of the IP hosts. (col 2, lines 24-36)
9. As per claim 42, 46-47, 55 and 58, wherein authenticating the CAN/IP message further comprises:  
extracting a CAN source address from the CAN/IP message, wherein the CAN source address is associated with the second one of the IP hosts; and comparing the CAN source address with known CAN addresses stored in an address resolution protocol (ARP) cache, which stores CAN bus addresses and IP addresses. (col 11, lines 43-52)
10. The method of claim 44, further comprising after authenticating the CAN/IP message, determining the CAN/IP message type. (Col 2, lines 24-36)
11. As per claim 45, wherein if the CAN/IP message type is an ARP request corresponding to the first one of the IP host's IP address, sending an ARP reply verifying the first one of the IP host's address. (Col 10, lines 25-35)
12. As per claim 46, wherein if the CAN/IP message type is an ARP reply to a previously sent ARP request, adding the IP address extracted from the ARP reply to the ARP cache. (Col 24, lines 39-50)
13. As per claim 47, wherein if the CAN/IP message type is a CAN/IP datagram, extracting and processing the IP message. (Col 11, lines 43-52)

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14. The system of claim 57, wherein the second IP host is configured to extract and process the IP message if the CAN/IP message type is a CAN/IP datagram. (col 11, lines 43-52)

15. As per claim 63, wherein a CAN device and said IP host are coupled to the CAN bus. (col 4, lines 56-67 and col 5, lines 1-22)

16. As per claim 64, the apparatus wherein the first IP host is configured to communicate with the second IP host by transmitting the CAN/IP message over the CAN bus. (Col 4, lines 48-67)

17. As per claim 65, the apparatus wherein a CAN device and said first and second IP hosts are coupled to the CAN bus. (Col 2, lines 24-36)

18. As per claim 66, the method wherein a result of said encapsulating is a CAN/IP message, which includes an IP destination address. (Col 4, lines 56-67 and col 5, lines 1-22)

As per claim 67, the method wherein a CAN device and said IP hosts are coupled to the CAN bus. (Col 2, lines 24-36)

### *Conclusion*

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mitra Kianersi whose telephone number is (571) 272-3915. The examiner can normally be reached on 8:00AM-4:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Cordone can be reached on (571) 272-3933. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Mitra Kianersi  
April/19/2007



**JASON CARDONE**  
SUPERVISORY PATENT EXAMINER